



Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137



Federally Enforceable District Origin Operating Permit (FEDOOP)

Permit No.: O-1027-17-F

Plant ID: 1027

Effective Date: 6/7/2017

Expiration Date: 6/7/2022

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Owner/Source: Hillerich & Bradsby Co.
800 West Main Street
Louisville, Kentucky 40202

The applicable procedures of District Regulation 2.17 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than twelve (12) months and no later than ninety (90) days prior to the expiration date.

Emission limitations to qualify for non-major status:

Pollutant:	VOC	Single HAP	Total HAP	PM ₁₀
Tons/year:	25	5	12.5	25

Application No.: 75723

Application Received: 03/03/2016

Permit Writer: Jenny Rhodes

Date of Public Notice: 5/6/2017

Paul G. And

Air Pollution Control Officer
June 07, 2017

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FEDDOOP Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Change Scope	Description
Initial	O-1027-17-F	6/7/2017	05/06/2017	Initial	Entire Permit	Initial Permit Issuance

Construction Permit History

Permit No.	Issue Date	Description
448-94-C	6/28/1994	Coating and finishing operation using water base materials for wood baseball bats. (Application line #5)
449-94-C	6/28/1994	Particulate collection system for sawdust generated from cutting wood billets to length, wood turning to shape, and sanding to finish for wood baseball bats.
450-94-C	6/28/1994	Particulate conveyance system for sawdust generated from cutting wood billets to length, wood turning to shape, and sanding to finish of wood baseball bats. (Application line #2)
454-94-C	6/28/1994	One golf iron finishing and assembly process including painting, shaft and grip assembly, and cleaning. (Application line #9 and #10) (Voided)
225-06-C	7/31/2006	Two (2) open sump, cold solvent parts washers, make Chicago Power Tools.
239-06-C	7/31/2006	One (1) pad printing logo operation (400 bats per hour) with associated parts wash tank, and one (1) silk screen logo printing operation (450 bats per hour) with associated parts wash tank.
C-1027-1002-16-F	4/29/2016	Four (4) spray booths, additional dip lines, and three (3) pad printers.

Application and Related Documents

Document Number	Date Received	Description
NA	6/27/1994	Application for Dust Collection System
NA	6/19/2006	Construction application for pad printing machine, silk screen machine, and parts washers.
75723	3/3/2016	Construction/FEDDOOP Operating Permit Application and Certificate of Existence
75763	3/7/2016	Revised Forms AP-150B and AP-200H
75764	3/8/2016	Revised Form AP-100B
76045	3/25/2016	Best Available Control Technology (BACT) Study Baseball Bat Spray Paint Coating Operations

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors</i> , published by U.S.EPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
HCl	- Hydrogen chloride
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mmHg	- Millimeters of mercury column height
MM	- Million
NAICS	- North American Industry Classification System
NO _x	- Nitrogen oxides
PM	- Particulate Matter
PM ₁₀	- Particulate Matter less than 10 microns
PM _{2.5}	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- Pounds per square inch absolute
QA	- Quality Assurance
RACT	- Reasonably Available Control Technology
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO ₂	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of annual fees is not made. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

1. The owner or operator shall comply with all General Conditions herein and all terms and conditions in the referenced process/process equipment list.
2. All terms and conditions in this FEDOOP are enforceable by EPA, except those terms and conditions specified as District-only enforceable, and those which are not required pursuant to the Clean Air Act Amendments of 1990 (CAAA) or any of the Act's applicable requirements.
3. All application forms, reports, compliance certifications, and other relevant information submitted to the District shall be certified by a responsible official. If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.
4. The owner or operator shall submit an annual compliance certification, signed by the responsible official, to the District, on or before April 15 of the year following the year for which the certification applies. This certification shall include completion of District Form 9440-O.
5. Periodic testing, instrumental monitoring, or non-instrumental monitoring, which may include record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstrating continuing compliance with the terms and conditions of this permit.
6. The owner or operator shall retain all records required by the District or any applicable requirement, including all required monitoring data and supporting information, for a period of five years from the date of the monitoring, sampling, measurement, report, or application, unless a longer time period for record retention is required by the District or an applicable requirement. Records shall be retrievable within a reasonable time and made available to the District, Kentucky Division for Air Quality, or the EPA upon request.
7. The owner or operator shall provide written notification to the District, and receive approval, prior to making any changes to existing equipment or processes that would result in emissions of any regulated pollutant in excess of the allowable emissions specified in this permit.
8. This permit may be reissued, revised, reopened, or revoked pursuant to District Regulation 2.17. Repeated violations of permit conditions are sufficient cause for revocation of this permit. The filing of a request by the owner or operator for any reissuance, revision, revocation, termination, or a notification of planned changes in equipment or processes, or anticipated noncompliance shall not alter any permit requirement.
9. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed either 10 tons per year, or such lesser quantity as the EPA has established by rule, of any one Hazardous Air Pollutant (HAP) or 25 tons per year of all HAPs combined. Fugitive HAP emissions shall be included in this limit. HAPs are listed in Section 112(b) of the CAAA and as amended in 40 CFR 63, Subpart C.
10. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed 100 tons per year of any regulated pollutant,

including particulate matter, PM₁₀, PM_{2.5}, sulfur dioxide, carbon monoxide, nitrogen oxides, lead, hydrogen sulfide, gaseous fluorides, total fluorides, or Volatile Organic Compounds (VOC); any pollutant subject to any standard in District Regulation 7.02; or any substance listed in sections 112(r), 602(a) and 602(b) of the CAAA. Fugitive emissions shall be included in these limits for source categories listed in District Regulation 2.16.

11. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.
12. Unless specified elsewhere in this permit, the owner or operator shall submit annual reports demonstrating compliance with the emission limitations specified. The report shall contain monthly and consecutive 12-month totals for each pollutant that has a federally enforceable limitation on the potential to emit. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All annual compliance reports shall include the following per Regulation 2.17, section 3.5.
 - A certification statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete", and
 - The signature and title of a responsible official of the company.

The report must be postmarked no later than March 1 of the year following the calendar year covered in the annual report.

13. The owner or operator shall comply with all applicable requirements of the following federally enforceable District Regulations:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance with Emissions Standards and Maintenance Requirements
1.06	Source Self-Monitoring, Emissions Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.07	Public Notification for Title V, PSD, and Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension

Regulation	Title
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.17	Federally Enforceable District Origin Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions

14. The owner or operator shall comply with all applicable requirements of the following District-only enforceable regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors in the Ambient Air
2.08	Fees
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.14	Hazardous Air Pollutants and Source Categories
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants
7.02	Adoption of Federal New Source Performance Standards

15. The owner or operator shall submit emission inventory reports, as required by Regulation 1.06, if so notified by the District.
16. The owner or operator shall submit timely reports of abnormal conditions or operational changes that may cause excess emissions, as required by Regulation 1.07.
17. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit shall be submitted to:

***Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, KY 40203-3137***

Emission Unit: Plantwide Requirements**Plantwide Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
2.17	Federally Enforceable District Origin Operating Permits	1 through 9

Plantwide Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. HAP**

- i. The owner or operator shall not allow or cause the plantwide emissions of any individual HAP to equal or exceed 5 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)¹
- ii. The owner or operator shall not allow or cause the plantwide emissions of all HAPs combined to equal or exceed 12.5 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)¹

b. PM/PM₁₀

- i. The owner or operator shall not allow or cause the plantwide PM/PM₁₀ emissions to equal or exceed 25 tons during any consecutive 12-month period. (Regulation 2.17, section 5.1)¹

c. VOC

- i. The owner or operator shall not allow or cause total plantwide VOC emissions to equal or exceed 25 tons during any consecutive 12-month period.¹ (Regulation 2.17, section 5.1)

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. HAP

- i. The owner or operator shall monthly calculate and record the plantwide emissions of single HAP and total HAPs during each calendar month and the consecutive 12-month period. (See Attachment A for Default Emission Factors, Calculation Methodologies, and Stack Tests.)
- ii. The owner or operator shall keep a record of the material safety data sheet/safety data sheet (MSDS/SDS) for each raw material.

b. PM/PM₁₀

- i. The owner or operator shall monthly calculate and record the plantwide PM/PM₁₀ emissions during each calendar month and the consecutive 12-month total plantwide PM/PM₁₀ emissions. (See Attachment A for Default Emission Factors, Calculation Methodologies, and Stack Tests.)

c. VOC

- i. The owner or operator shall monthly calculate and record the plantwide VOC emissions during each calendar month and the consecutive 12-month total plantwide VOC emissions. (See Attachment A for Default Emission Factors, Calculation Methodologies, and Stack Tests.)

¹ The company requested to be exempt from STAR as defined in Regulation 5.00, section 1.13.5 in the application dated 03/01/2016.

S3. Reporting (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. HAP

- i. The owner or operator shall report the total plantwide calendar month and consecutive 12-month emissions of each single HAP and total HAPs for each month in the reporting period.

b. PM/PM₁₀

- i. The owner or operator shall report the total plantwide calendar month and consecutive 12-month PM/PM₁₀ emissions for each month in the reporting period.

c. VOC

- i. The owner or operator shall report the total plantwide calendar month and consecutive 12-month VOC emissions for each month in the reporting period.

Emission Unit U1: Woodworking**U1 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
7.08	Standards of Performance for New Process Operations	1 through 3

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E1	One (1) particulate conveyance system collecting material from eleven (11) wood lathes for cutting baseball bats, 1 C&C machine, three (3) sanding stations, and one (1) wood burning operation for burning a label onto each bat	7.08	C1	S1	1995

U1 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
C1	One (1) particulate collection system	95%	N/A	S1

U1 Equipment Otherwise Not Regulated:

Description	
Eleven (11) wood lathes for cutting baseball bats	Three (3) sanding stations
One (1) C&C machine	One (1) wood burning operation for burning a label onto each bat

U1 Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. Opacity**

- i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

b. PM/PM₁₀

- i. See Plantwide Condition.
- ii. The owner or operator shall not allow PM emissions to exceed 2.61 lb/hr from E1 based on actual operating hours in a calendar day. (Regulation 7.08, section 3.1.2)(Permit 449-94-C effective 6/28/1994)²
- iii. The owner or operator shall operate and maintain the particulate collection system (C1) at all times an associated emission point is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice to meet the standards. (Regulation 7.08, section 3.1.2)

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. Opacity

- i. The owner or operator shall conduct a monthly one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.
- iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

b. PM/PM₁₀

- i. See Plantwide Condition.

² This equipment cannot exceed the PM standard when the collection system is in operation.

- ii. If there is any time that the particulate collection system (C1) is bypassed or not in operation when the associated processes are operating, then the owner or operator shall keep a record of the following for each bypass event:
 - 1) Date;
 - 2) Start time and stop time;
 - 3) Identification of the control device and process equipment;
 - 4) Processing/production rate;
 - 5) PM/PM₁₀ emissions during the bypass in lb/hr; (See Appendix A for Default Emission Factors, Calculation Methodologies, & Stack Tests)
 - 6) Summary of the cause or reason for each bypass event;
 - 7) Corrective action taken to minimize the extent or duration of the bypass event; and
 - 8) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

S3. **Reporting** (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. **Opacity**

- i. There are no reporting requirements for this pollutant.

b. **PM/PM₁₀**

- i. See Plantwide Condition.
- i. The owner or operator shall report the following information regarding C1 PM/PM₁₀ bypasses in the annual compliance reports.
 - 1) Number of times the PM/PM₁₀ vent stream bypasses C1 and is vented to the atmosphere;
 - 2) Duration of each bypass to the atmosphere;
 - 3) Calculated pound per hour PM/PM₁₀ emissions for each bypass; or

Emission Unit U2: Coating**U2 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	1 through 3
7.08	Standards of Performance for New Process Operations	1 through 3

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E2ai	Three (3) Staining Dip Tanks	7.25	NA	Fugitive
E2aii		7.25	NA	Fugitive
E2aiii		7.25	NA	Fugitive
E2bi	Two (2) ½ Dip Lines	7.25	NA	Fugitive
E2bii		7.25	NA	Fugitive
E2ci	One (1) full Dip Line (Permit 448-94-C)	7.25 (BACT)	NA	Fugitive
E2cii	Two (2) full Dip Lines	7.25	NA	Fugitive
E2ciii		7.25	NA	Fugitive
E2d	One (1) “Fish Hook” Dip Line (Permit 448-94-C)	7.25 (BACT)	NA	Fugitive
E2e	One (1) Filler Dip Line	7.25	NA	Fugitive
E3	One (1) Mini Bat Dip Line	7.25	NA	Fugitive
E4a	Four (4) Spray Booths, Model IFPX5, Manufacturer Global Finishing Solutions.	7.08 & 7.25 (BACT)	F1	S2
E4b			F2	S3
E4c			F3	
E4d			F4	

U2 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator	Stack ID
F1	Filters	90%	N/A	S2
F2	Filters	90%	N/A	S3
F3	Filters	90%	N/A	
F4	Filters	90%	N/A	

U2 Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. HAP**

- i. See Plantwide Condition.³

b. Opacity

- i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. (Regulation 7.08, section 3.1.1)

c. PM/PM₁₀

- i. See Plantwide Condition.
- ii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr from each spray booth (E4a, E4b, E4c, & E4d) based on actual operating hours in a calendar day. (Regulation 7.08, section 3.1.2)⁴
- iii. All spraying area or spray booth exhaust shall pass through filters or a filtering system that has a minimum efficiency of ninety percent (90%) on particulates. Efficiency shall be verified by manufacturer's rated efficiency or other means approved by the District.(Regulation 7.08, section 3.1.2)

d. VOC

- i. See Plantwide Condition.
- ii. For E2ci and E2d combined; the owner or operator shall not allow or cause VOC emissions to exceed 3.55 tons during any consecutive 12-month period. (Regulation 7.25, section 3) (Permit 448-94-C effective 6/28/1994) (BACT) (See Comment.)
- iii. For spray booths (E4a, E4b, E4c, and E4d):⁵
 - 1) The owner or operator shall not allow or cause VOC emissions to exceed 9.87 tons during any consecutive 12-month period from E4a, E4b, E4c, and E4d combined. (Regulation 7.25, section 3) (BACT) (Permit C-1027-1002) (See Comment.)
 - 2) The District has determined that compliance with the following VOC requirements in **Table 1** represent Best Available Control Technology (BACT) (Permit C-1027-1002)

³ 40 CFR 63 Subpart HHHHHH *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources* does not apply to this source because the source does not perform paint stripping using methylene chloride, does not perform spray application of coatings to motor vehicles and mobile equipment, and does perform spray application to plastic and/or metal substrate per 40 CFR 63.11170(a).

⁴ This equipment cannot exceed the PM standard controlled.

⁵ The company submitted a BACT analysis for spray booths (E4a, E4b, E4c, and E4d) on March 25, 2016.

Table 1: BACT Limits

Raw Material	BACT Limit
Water Based Paints	2.18 lb VOC/gal “as packaged”
Solvent Based Stains	6.64 lb VOC/gal “as packaged”
Two Part Epoxy Paint	3.95 lb VOC/gal “as applied”
Cleaner ⁶	0 lb VOC/gal

(Regulation 2.03, section 5.1) (Regulation 7.25, section 3) (BACT)

- 3) The owner or operator shall store all VOC containing materials in closed containers when not in use. (Regulation 7.25, section 3) (BACT) (Permit C-1027-1002)
- 4) The owner or operator shall clean up all spills of any VOC containing materials no matter how small it is. If the spill is significant (i.e. more than one gallon), the owner or operator shall notify maintenance or professionals for assistance. (Regulation 7.25, section 3) (BACT) (Permit C-1027-1002)
- iv. The owner or operator shall not allow or cause plantwide VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners from all affected facilities (E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d) subject to Regulation 7.25 to equal or exceed 5 tons during any 12 consecutive month period, unless a BACT is submitted and approved by the District. (Regulation 7.25, section 2.1 and 3.1) (See Comment.)

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

- a. **HAP**
 - i. See Plantwide Specific Condition.
- b. **Opacity**
 - i. There are no monitoring or record keeping requirements for this pollutant.
- c. **PM/PM₁₀**
 - i. See Plantwide Specific Condition.
 - ii. The owner or operator shall inspect the filters in the paint booth(s) at least monthly to ensure proper installment (i.e. proper alignment/placement, gaps, etc.) and replace as needed.
 - iii. The owner or operator shall keep a record that shows the date and the name of the person who inspected the filters and if filters were replaced.
 - iv. If there is any time that the filters are bypassed or not in operation when the paint booths (E4a, E4b, E4c, & E4d) are operating, then the owner or operator shall keep a record of the following for each bypass event:
 - 1) Date;

⁶ In the application dated March 1, 2016, the facility proposed to use water and acetone for cleaning. Per Regulation 1.02, section 1.84.23, acetone does not meet the definition of VOC.

- 2) Start time and stop time;
- 3) Identification of the paint booth;
- 4) Records of the type and amount of product transferred.
- 5) Hours of operation of the equipment.
- 6) PM/PM₁₀ emissions during the bypass in lb/hr;
- 7) Summary of the cause or reason for each bypass event;
- 8) Corrective action taken to minimize the extent or duration of the bypass event; and
- 9) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. **VOC**

- i. See Plantwide Specific Condition.
- ii. For E2ci and E2d combined; the owner or operator shall monthly calculate and record the consecutive 12-month VOC emissions.
- iii. For spray booths (E4a, E4b, E4c, and E4d) combined; the owner or operator shall monthly calculate and record the consecutive 12-month period VOC emissions.
- iv. The owner or operator shall monthly calculate and record the consecutive 12-month VOC emissions from E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d combined.

S3. **Reporting** (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. **HAP**

- i. See Plantwide Specific Condition.

b. **Opacity**

- i. There are no routine compliance reporting requirements for this equipment.

c. **PM/PM₁₀**

- i. See Plantwide Specific Condition.
- ii. The owner or operator shall report the following information regarding PM/PM₁₀ filter bypasses in the annual compliance reports.
 - 1) Number of times the PM/PM₁₀ vent stream bypasses the filters and is vented to the atmosphere;
 - 2) Duration of each bypass to the atmosphere;
 - 3) Calculated pound per hour PM/PM₁₀ emissions for each bypass; or

4) A negative declaration if no bypasses occurred.

a. **VOC**

- i. See Plantwide Specific Condition.
- ii. For E2ci. and E2d combined, the owner or operator shall report the consecutive 12-month VOC emissions for each month in the report period.
- iii. For spray booths (E4a, E4b, E4c, and E4d) combined, the owner or operator shall report the consecutive 12-month VOC emissions for each month in the report period.
- iv. For pad printing machines (E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d) combined, the owner or operator shall report the consecutive 12-month VOC emissions for each month in the report period.

Comment

Table 2: Regulation 7.25 Summary

Emission Unit U2			
Emission Point	Description	Regulation 7.25 Limit	Basis
E2ai - E2aiii	Three (3) Staining Dip Tanks	Plantwide 5 tons VOC/12 Consecutive Month Period “Bucket”	Regulation 7.25, section 2.1 and 3.1
E2bi	Two (2) ½ Dip Lines		
E2bii			
E2cii	Two (2) Full Dip Lines		
E2ciii			
E2e	One (1) Filler Dip Line		
E3	One (1) Mini Bat Dip Line		
E2ci	One (1) Full Dip Line	3.55 tons VOC/12 Consecutive Month Period (BACT)	Permit 448-94-C
E2d	One (1) “Fish Hook” Dip Line		
E4a -E4d	Four (4) Spray Booths, Model IFPX5, Manufacturer Global Finishing Solutions	9.87 tons VOC/12 Consecutive Month Period (BACT)	BACT Received March 25, 2016
Emission Unit U3			
E5a	One (1) pad printing logo machine with associated parts wash tank	5 tons VOC/12 Consecutive Month Period (BACT)	Permit 239-06-C
E6	One (1) silk screen printing log machine with associated parts wash tank		
E5b	One (1) pad printing logo machine, Model PP-200	Plantwide 5 tons VOC/12 Consecutive Month Period “Bucket”	Regulation 7.25, section 2.1 and 3.1
E5c	One (1) pad printing logo machine, Model PP-21N-2S		
E5d	One (1) pad printing logo machine, Turbo 165		

Emission Unit U3: Printing**U3 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	1 through 3

U3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E5a	One (1) pad printing logo machine with associated parts wash tank	7.25 (BACT)	NA	Fugitive	2006
E5b	One (1) pad printing logo machine, Model PP-200	7.25			2011
E5c	One (1) pad printing logo machine, Model PP-21N-2S				2011
E5d	One (1) pad printing logo machine, Turbo 165				2011
E6	One (1) silk screen printing logo machine with associated parts wash tank	7.25 (BACT)	NA	Fugitive	2006

U3 Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. HAP**

- i. See Plantwide Condition.

b. VOC

- i. See Plantwide Condition.
- ii. For pad printing machine E5a with associated parts wash tank and the silk screen logo E6 printing operation with associated parts wash tank:
 - 1) The owner or operator shall not allow or cause VOC emissions to exceed 5 tons during any consecutive 12-month period. (Regulation 7.25, section 3) (Permit 239-06-C effective 7/31/2006) (BACT) (See Comment.)
 - 2) The owner or operator shall store all VOC containing materials in closed containers when not in use. This includes materials such as inks, solvents, and waste materials including rags/wipes/paper used to clean process equipment. (BACT)(Permit 239-06-C effective 7/31/2006)
- iii. The owner or operator shall not allow or cause plantwide VOC emissions, including all coatings, additives, catalysts, solvents, thinners, and cleaners from all affected facilities (E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d) subject to Regulation 7.25 to equal or exceed 5 tons during any 12 consecutive month period, unless a BACT is submitted and approved by the District. (Regulation 7.25, section 2.1 and 3.1) (See Comment.)

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. HAP

- i. See Plantwide Condition.

b. VOC

- i. See Plantwide Condition.
- ii. The owner or operator shall, monthly, calculate and record the consecutive 12-month VOC emissions from pad printing machine E5a with associated parts wash tank and the silk screen logo E6 printing operation with associated parts wash tanks combined.
- iii. The owner or operator shall, monthly, calculate and record the consecutive 12-month VOC emissions from E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d combined.

S3. Reporting (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. HAP

- i. See Plantwide Condition.

b. VOC

- i. See Plantwide Condition.
- ii. The owner or operator shall report the consecutive 12-month VOC emissions from the pad printing machine E5a with associated parts wash tank and the silk screen logo E6 printing operation with associated parts wash tanks combined for each month in the report period.
- iii. The owner or operator shall report the consecutive 12-month VOC emissions from the E2ai, E2aii, E2aiii, E2bi, E2bii, E2cii, E2ciii, E2e, E3, E5b, E5c, and E5d combined for each month in the report period.

Comment**Table 3: Regulation 7.25 Summary**

Emission Unit U2			
Emission Point	Description	Regulation 7.25 Limit	Basis
E2ai – E2aiii	Three (3) Staining Dip Tanks	Plantwide 5 tons VOC/12 Consecutive Month Period “Bucket”	Regulation 7.25, section 2.1 and 3.1
E2bi	Two (2) ½ Dip Lines		
E2bii			
E2cii	Two (2) Full Dip Lines		
E2ciii			
E2e	One (1) Filler Dip Line		
E3	One (1) Mini Bat Dip Line		
E2ci	One (1) Full Dip Line	3.55 tons VOC/12 Consecutive Month Period (BACT)	Permit 448-94-C
E2d	One (1) “Fish Hook” Dip Line		
E4a - E4d	Four (4) Spray Booths, Model IFPX5, Manufacturer Global Finishing Solutions	9.87 tons VOC/12 Consecutive Month Period (BACT)	BACT Received March 25, 2016
Emission Unit U3			
E5a	One (1) pad printing logo machine with associated parts wash tank	5 tons VOC/12 Consecutive Month Period (BACT)	Permit 239-06-C
E6	One (1) silk screen printing log machine with associated parts wash tank		
E5b	One (1) pad printing logo machine, Model PP-200	Plantwide 5 tons VOC/12 Consecutive Month Period “Bucket”	Regulation 7.25, section 2.1 and 3.1
E5c	One (1) pad printing logo machine, Model PP-21N-2S		
E5d	One (1) pad printing logo machine, Turbo 165		

Emission Unit U4: Boilers**U4 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
7.06	Standards of Performance for New Indirect Heat Exchangers	1 - 5

U4 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E7	Two (2) natural gas boilers rated at 4.1 MMBtu/hr.	7.06	NA	S4	1995
E8					

U4 Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. HAP**

- i. See Plantwide Condition.

b. Opacity

- i. The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity.⁷

c. PM/PM₁₀

- i. See Plantwide Condition.
- ii. The owner or operator shall not cause to be discharged into the atmosphere from each affected facility (E7 & E8) particulate matter in excess of 0.56 pounds per million BTU actual total heat input. (Regulation 7.06, section 4.1.4)⁸

d. SO₂

- i. The owner or operator shall not cause to be discharged into the atmosphere from each affected facility (E7 & E8) any gases which contain sulfur dioxide in excess of 1.0 pound per million BTU actual total heat input for combustion of gaseous fuels. (Regulation 7.06, section 5.1.1)^{8,9}

e. VOC

- i. See Plantwide Condition.

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. HAP

- i. See Plantwide Condition.

b. Opacity

- i. There are no monitoring or recordkeeping requirements for this equipment.

⁷ The District has determined that using a natural gas fired boiler should inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

⁸ The District has performed a one-time PM and SO₂ compliance demonstration for the boilers, using AP-42 emission factors and combusting natural gas, and the pounds per million BTU emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for this boiler with respect to PM and SO₂ Regulation 7.06 emission limits.

⁹ 40 CFR 60 Subpart Dc *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* does not apply to this source because the boilers are less than 10 MMBtu/hr.

c. **PM/PM₁₀**i. See Plantwide Condition.¹⁰d. **SO₂**

i. There are no monitoring or recordkeeping requirements for this equipment.

e. **VOC**

i. See Plantwide Condition.

S3. **Reporting** (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. **HAP**

i. See Plantwide Condition.

b. **Opacity**

i. There are no routine reporting requirements for this equipment.

c. **PM/PM₁₀**

i. See Plantwide Condition.

d. **SO₂**

i. There are no routine reporting requirements for this equipment.

e. **VOC**

i. See Plantwide Condition.

¹⁰ Plantwide PM/PM₁₀ calculations are required to demonstrate compliance with the STAR exempt limits.

Emission Unit U5: Parts Washers**U5 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	1 - 4

U5 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID	Installation Date
E9	Two (2) parts washers without secondary reservoirs.	6.18	NA	Fugitive	2006
E10					2006

U5 Specific Conditions**S1. Standards** (Regulation 2.17, section 5.1)**a. HAP**

- i. See Plantwide Condition.

b. VOC

- i. See Plantwide Condition.
- ii. The owner or operator shall install, maintain, and operate the control equipment as follows: (Regulation 6.18, section 4)
 - 1) The cold cleaner shall be equipped with a tightly fitting cover that is free of cracks, holes, or other defects. If the solvent is agitated or heated, then the cover shall be designed so that it can be easily operated with 1 hand. (Regulation 6.18, section 4.1.1)
 - 2) The cold cleaner shall be equipped with a drainage facility that is designed so that the solvent that drains off parts removed from the cleaner will return to the cold cleaner. The drainage facility may be external if the District determines that an internal type cannot fit into the cleaning system. (Regulation 6.18, section 4.1.2)
 - 3) A permanent, conspicuous label summarizing these operating requirements shall be installed on or near the cold cleaner. (Regulation 6.18, section 4.1.3)
 - 4) If used, the solvent spray shall be a fluid stream, not a fine, atomized, or shower type spray, at a pressure that does not cause excessive splashing. Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the cold cleaner. Solvent flow shall be directed downward to avoid turbulence at the air-solvent interface and to prevent solvent from splashing outside of the cold cleaner. (Regulation 6.18, section 4.1.4)
 - 5) Work area fans shall be located and positioned so that they do not blow across the opening of the cold cleaner. (Regulation 6.18, section 4.1.6)
 - 6) The solvent-containing portion of the cold cleaner shall be free of all liquid leaks. Auxiliary cold cleaner equipment such as pumps, water separators, steam traps, or distillation units shall not have any visible liquid leaks, visible tears, or cracks. (Regulation 6.18, section 4.1.8)
- iii. The owner or operator shall observe at all times the following operating requirements: (Regulation 6.18, section 4.2)
 - 1) Waste solvent shall neither be disposed of nor transferred to another party in a manner such that more than 20% by weight of the waste solvent can evaporate. Waste solvent shall be stored only in a covered container. A covered container may contain a device

that allows pressure relief, but does not allow liquid solvent to drain from the container. (Regulation 6.18, section 4.2.1)

- 2) The solvent level in the cold cleaner shall not exceed the fill line. (Regulation 6.18, section 4.2.2)
 - 3) The cold cleaner cover shall be closed whenever a part is not being handled in the cold cleaner. (Regulation 6.18, section 4.2.3)
 - 4) Parts to be cleaned shall be racked or placed into the cold cleaner in a manner that will minimize drag-out losses. (Regulation 6.18, section 4.2.4)
 - 5) Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping, or rotating, the parts shall be positioned so that the solvent drains directly back to the cold cleaner. (Regulation 6.18, section 4.2.5)
 - 6) A spill during solvent transfer shall be cleaned immediately, and the wipe rags or other sorbent material shall be immediately stored in a covered container for disposal or recycling, unless enclosed storage of these items is not allowed by fire protection authorities. (Regulation 6.18, section 4.2.6)
 - 7) Sponges, fabric, wood, leather, paper products, and other absorbent material shall not be cleaned in a cold cleaner. (Regulation 6.18, section 4.2.7)
- iv. The owner or operator shall not operate a cold cleaner using a solvent with a vapor pressure that exceeds 1.0 mm Hg (0.019 psi) measured at 20°C (68°F). (Regulation 6.18, section 4.3.2)

S2. Monitoring and Record Keeping (Regulation 2.17, section 5.2)

The owner or operator shall maintain the following records for a minimum of 5 years and make the records readily available to the District upon request.

a. HAP

- i. See Plantwide Condition.

b. VOC

- i. See Plantwide Condition.
- ii. The owner or operator shall maintain records that include the following for each purchase: (Regulation 6.18, section 4.4.2)
- 1) The name and address of the solvent supplier,
 - 2) The date of the purchase,
 - 3) The type of the solvent, and
- iii. The vapor pressure of the solvent measured in mm Hg at 20°C. All records shall be retained for 5 years and made available to the District upon request. (Regulation 6.18, section 4.4.3) (68°F).

S3. Reporting (Regulation 2.17, section 5.2)

The owner or operator shall include, at a minimum, identification of all period of exceedances of an emission limit and the following information in the annual compliance monitoring reports. If no deviations from permit requirements occur during a reporting period, the owner or operator shall submit a negative declaration stating that no permit deviations occurred during the reporting period. (See General Condition 12.)

a. HAP

- i. See Plant-wide Condition.

b. VOC

- i. See Plant-wide Condition.

Insignificant Activities

- 1) Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
- 2) Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
- 3) The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.
- 4) Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
- 5) The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.
- 6) The District has determined that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Attachment A - Default Emission Factors, Calculation Methodologies, and Stack Tests

Generally, emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc) or hours of operation of the equipment by the appropriate emission factor and accounting for any control devices unless otherwise approved in writing by the District.

$$HAP_A = \sum_1^x [U_x(1 - C_{Conx})] + \sum_i^z U_z$$

Where:

HAP_A = Total plantwide emissions of an individual HAP (A)
 U_x = Uncontrolled HAP emission from each Emission Point (x)
 C_{Conx} = Control Efficiency of each control device for each Emission Point (x)
 U_z = Uncontrolled HAP emissions from each uncontrolled Emission Point (z) during bypass events

$$PM/PM_{10}/PM_{2.5} = \sum_1^x [U_x(1 - C_{Conx})] + \sum_1^z U_z$$

Where:

$PM/PM_{10}/PM_{2.5}$ = Total plantwide emissions of PM/PM₁₀/PM_{2.5}
 U_x = Uncontrolled PM emission from each Emission Point (x)
 C_{Conx} = Control Efficiency of each control device for each Emission Point (x)
 U_z = Uncontrolled PM/PM₁₀/PM_{2.5} emissions from each uncontrolled Emission Point (z) during bypass events

$$VOC = \sum_1^x [U_x]$$

Where:

VOC = Total plantwide emissions of VOC
 U_x = Uncontrolled VOC emission from each Emission Point (x)

Table 4: Acceptable Emission Factor Sources

Emission Point	Description	Control ID	Acceptable Emission Factor Sources
U1 Woodworking			
E1	One (1) particulate conveyance system collecting material from eleven (11) wood lathes fur cutting baseball bats, 1 C&C machine, three (3) sanding stations, and one (1) wood burning operation for burning a label onto each bat	C1 95% Efficiency	Wood Chips: 0.55 ounces PM/bat Sanding: 0.002 ounces PM/bat Burning Label onto bat: 0.01 ounces PM/bat Assume PM = PM ₁₀ = PM _{2.5}
U2 Coating			
E2ai	Three (3) Staining Dip Tanks	NA	Material Balance
E2aii			
E2aiii			
E2bi	Two (2) ½ Dip Line	NA	
E2bii			

Emission Point	Description	Control ID	Acceptable Emission Factor Sources
E2ci	Three (3) full dip lines	NA	Material Balance
E2cii			
E2ciii			
E2d	One (1) “Fish Hook” Dip Line	NA	
E2e	One (1) Filler Dip Line	NA	
E3	One (1) Mini Bat Dip Line	NA	
E4a	Four (4) Spray Booths, Model IFPX5, Manufacturer Global Finishing Solutions	Filters 90% Efficiency ¹¹	VOC
E4b			Material Balance
E4c			PM/PM ₁₀ /PM _{2.5}
E4d			65% Transfer Efficiency & Material Balance
U3 Printing			
E5a - E5d	Four (4) pad printing logo machines	NA	Material Balance
E6	One (1) silk screen printing log machine	NA	
U4 Boilers			
E7 - E8	Two (2) natural gas boilers rated at 4.1 MMBtu/hr	NA	Natural Gas Combustion AP-42, Chapter 1.4, Table 1.4-1 through Table 1.4-4
U5 Parts Washer			
E9 - E10	Two (2) parts washers without secondary reservoirs	NA	Material Balance

Note:

- Options for control efficiency determination:
 - Option 1: Use District pre-approved control efficiency
 - Option 2: Submit a signature guarantee from the control device manufacture stating the control device efficiency.
 - Option 3: Perform stack test. See Attachment B – Protocol Checklist for a Performance Test.¹²
- Until the District receives a signature guarantee from the control device manufacturer stating the control device efficiency is higher (Option 2), the pre-approved efficiency (Option 1) will be used in all calculations to demonstrate compliance with applicable standards.

¹¹ This is the District's pre-approved control efficiency for filters.

¹² Stack testing is not specifically required by this permit. At any time, the owner/operator can voluntarily test to determine control device efficiency or an emission rate.

Attachment B - Protocol Checklist for a Performance Test

A completed protocol should include the following information:

- ☐ 1. Facility name, location, and ID #;
- ☐ 2. Responsible Official and environmental contact names;
- ☐ 3. Permit numbers that are requiring the test to be conducted;
- ☐ 4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
- ☐ 5. Alternative test methods or description of modifications to the test methods to be used;
- ☐ 6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
- ☐ 7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
- ☐ 8. Maximum rated production capacity of the system;
- ☐ 9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
- ☐ 10. Method to be used for determining rate of production during the performance test;
- ☐ 11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
- ☐ 12. Description of normal operation cycles;
- ☐ 13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
- ☐ 14. Process flow diagram;
- ☐ 15. The type and manufacturer of the control equipment, if any;
- ☐ 16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
- ☐ 17. How quality assurance and accuracy of the data will be maintained, including;
 - ☐ Sample identification and chain-of-custody procedures
 - ☐ If audit samples are required for this test method, audit sample provider and number of audit samples to be used
- ☐ 18. Pipe, duct, stack, or flue diameter to be tested;
- ☐ 19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
- ☐ 20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60;
 - ☐ Method 1 if stack diameter is >12"
 - ☐ Method 1a if stack diameter is greater than or equal to 4" and less than 12"
 - ☐ Alternate method of determination for <4"
 - ☐ If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.

21. The Stack Test Review fee shall be submitted with each stack test protocol.